

We Claim:

1. A device for removing cytokines or other species of pro-inflammatory or anti-inflammatory stimulators or mediators from the blood comprising a housing, and an adsorption medium in the housing sized to selectively adsorb cytokines or other species of pro-inflammatory or anti-inflammatory stimulators or mediators from the blood, the adsorption medium being characterized by a Biocompatibility Index of not greater than 14.

2. A device for removing cytokines or other species of pro-inflammatory or anti-inflammatory stimulators or mediators from a blood component product harvested from the blood drawn from an individual comprising a housing, and an adsorption medium in the housing sized to selectively adsorb cytokines or other species of pro-inflammatory or anti-inflammatory stimulators or mediators from the blood component product, the adsorption medium being characterized by a Biocompatibility Index of not greater than 14.

3. A device for removing cytokines or other species of pro-inflammatory or anti-inflammatory stimulators or mediators from a physiologic fluid drawn from an individual comprising a housing, and an adsorption medium in the housing sized to selectively adsorb cytokines or other species of pro-inflammatory or anti-inflammatory stimulators or mediators from the physiologic fluid, the adsorption medium being characterized by a Biocompatibility Index of not greater than 14.

4. A device according to claim 1 or 2 or 3 wherein the Biocompatibility Index is not greater than 7.

5. A system according to claim 1 or 2 or 3 wherein the adsorption medium comprises a polymeric material.

6. A system according to claim 5 wherein the polymeric material comprises

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particles formed from a porous hydrophobic divinylbenzene copolymer having a surface modified to include surface exposed functional groups selected from the group of polymers of 2-hydroxyethyl methacrylate, N-vinylpyrrolidine, N-vinylcaprolactame and N-acrylamide.

7. A system for treating an individual experiencing septic shock comprising a flow path adapted to draw the blood from the circulatory system of the individual for return to the circulatory system including an adsorption medium sized to selectively adsorb cytokines or other species of pro-inflammatory or anti-inflammatory stimulators or mediators from the blood, the adsorption medium being characterized by a Biocompatibility Index of not greater than 14.

8. A system according to claim 7 wherein the Biocompatibility Index is not greater than 7.

9. A system according to claim 7 wherein the adsorption medium comprises a polymeric material.

10. A system according to claim 9 wherein the polymeric material comprises particles formed from a porous hydrophobic divinylbenzene copolymer having a surface modified to include surface exposed functional groups selected from the group of polymers of 2-hydroxyethyl methacrylate, N-vinylpyrrolidine, N-vinylcaprolactame and N-acrylamide.

11. A system according to claim 7 wherein the flow path includes an intravenous catheter.

12. A system according to claim 7 wherein the flow path includes an indwelling catheter.

13. A system according to claim 7 wherein the flow path includes tubing having a

wall impregnated with the adsorption medium.

14. A system according to claim 7

wherein the flow path includes an in-line housing, and

wherein the adsorption medium is contained within the housing.

15. A system according to claim 7

wherein the flow path includes an in-line exchangeable housing, and

wherein the adsorption medium is contained within the housing.

16. A system for treating the blood of an individual comprising

means for drawing the blood from the circulatory system of the individual for return to the circulatory system, and

means for removing cytokines or other species of pro-inflammatory or anti-inflammatory stimulators or mediators from the blood by bringing the blood into contact with an adsorption medium sized to selectively adsorb cytokines from the blood, the adsorption medium being characterized by a Biocompatibility Index of not greater than 14.

17. A system according to claim 16

wherein the Biocompatibility Index is not greater than 7.

18. A system according to claim 16

wherein the adsorption medium comprises a polymeric material.

19. A system according to claim 18

wherein the polymeric material comprises particles formed from a porous hydrophobic divinylbenzene copolymer having a surface modified to include surface exposed functional groups selected from the group of polymers of 2-hydroxyethyl methacrylate, N-vinylpyrrolidine,

N-vinylcaprolactame and N-acrylamide.

20. A system according to claim 16
wherein the means for drawing the blood includes
an intravenous catheter.

21. A system according to claim 16
wherein the means for drawing the blood includes
an indwelling catheter.

22. A system according to claim 16
wherein the means for drawing the blood includes
tubing having a wall impregnated with the adsorption medium.

23. A system according to claim 16
wherein the means for drawing the blood includes
an in-line housing, and
wherein the adsorption medium is contained within
the housing.

24. A system according to claim 16
wherein the means for drawing the blood includes
an in-line exchangeable housing, and
wherein the adsorption medium is contained within
the housing.

25. A method for treating the blood of an
individual comprising the steps of

drawing the blood from the circulatory system of
the individual for return to the circulatory system, and

removing cytokines or other species of pro-
inflammatory or anti-inflammatory stimulators or mediators
from the blood by bringing the blood into contact with an
adsorption medium sized to selectively adsorb cytokines or
other species of pro-inflammatory or anti-inflammatory
stimulators or mediators from the blood, the adsorption
medium being characterized by a Biocompatibility Index of
not greater than 14.

26. A method according to claim 25
wherein the Biocompatibility Index is not greater
than 7.

27. A method according to claim 25
wherein the adsorption medium comprises a
polymeric material.

28. A method according to claim 27
wherein the polymeric material comprises
particles formed from a porous hydrophobic divinylbenzene
copolymer having a surface modified to include surface
exposed functional groups selected from the group of
polymers of 2-hydroxyethyl methacrylate, N-vinylpyrrolidine,
N-vinylcaprolactame and N-acrylamide.

29. A method for treating an individual
experiencing a condition on a continuum from early sepsis to
septic shock comprising the steps of

drawing the blood from the circulatory system of
the individual for return to the circulatory system, and

removing cytokines or other species of pro-
inflammatory or anti-inflammatory stimulators or mediators
from the blood by bringing the blood into contact with an
adsorption medium sized to selectively adsorb cytokines or
other species of pro-inflammatory or anti-inflammatory
stimulators or mediators from the blood, the adsorption
medium being characterized by a Biocompatibility Index of
not greater than 14.

30. A method according to claim 29
wherein the Biocompatibility Index is not greater
than 7.

31. A system according to claim 29
wherein the adsorption medium comprises a
polymeric material.

32. A system according to claim 31
wherein the polymeric material comprises
particles formed from a porous hydrophobic divinylbenzene
copolymer having a surface modified to include surface
exposed functional groups selected from the group of
polymers of 2-hydroxyethyl methacrylate, N-vinylpyrrolidine,

N-vinylcaprolactame and N-acrylamide.

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